DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Assessment

Permitting and Compliance Division
Water Protection Bureau

Name of Project: City of Three Forks Domestic Wastewater Treatment Facility

Location of Project: T 2N, R 1E, NE ¼ Section 36 & SE ¼ Section 25;

City/Town: Three Forks **County**: Gallatin

Description of Project:

This is the re-issuance of an MPDES permit for the City of Three Forks Domestic Wastewater Treatment facility. The City presently operates a five-cell facultative lagoon facility for treatment of its domestic wastewater. The facility was originally built in the 1960's and upgraded in 1980. The 1980 upgrades included the addition of two lined facultative lagoons, two Rapid Infiltration (RI) ponds with an under-drain system and effluent pump. The original lagoon was left in place to be used as a storage pond. The facility was designed to use the RI cells for continued organics removal; the RI cells were designed to be used from April through September. For the remainder of the year, the permittee stores water in its large storage cell. During the periods when the RI cells are used, effluent is discharged to the Madison River.

During permit drafting, the Department identified a number of deficiencies in the in existing facility. As such, special conditions are included in the permit to address the facility deficiencies.

Agency Action and Applicable Regulations: The proposed action of the Department is to reissue the MPDES permit for a five-year cycle.

Applicable rules and statute:
ARM Title 17, Chapter 30, Sub-chapter 2 - Water Quality Permit Application and Annual Fees.
ARM Title 17, Chapter 30, Sub-chapter 5 - Mixing Zones in Surface and Ground Water.
ARM Title 17, Chapter 30, Sub-chapter 6 - Surface Water Quality Standards.
ARM Title 17, Chapter 30, Sub-chapter 7 - Nondegradation of Water Quality.
ARM Title 17, Chapter 30, Sub-chapter 12 and 13 - Montana Pollutant Discharge Elimination System Standards.
Montana Water Quality Act, MCA 75-5-101 et. seq.

Summary of Issues: According to self-monitoring records and a recently completed Preliminary Engineering Report (PER), only a fraction of the wastewater is actually discharged through the surface water discharge (Outfall 001). The remaining wastewater is assumed to be going into the local shallow ground water. The permittee has not applied for a ground water outfall nor is the facility designed to discharge to the ground water. A special condition, including a compliance date, will be used to correct the situation.

Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts). *Include frequency, duration (long or short term), magnitude, and context for any significant impacts identified. Reference other permit analyses when appropriate (ex: statement of basis). Address significant impacts related to substantive issues and concerns. Identify reasonable feasible mitigation measures (before and after) where significant impacts cannot be avoided and note any irreversible or irretrievable impacts. Include background information on affected environment if necessary to discussion.*

N = Not present or No Impact will likely occur. *Use negative declarations where appropriate (wetlands, T&E, Cultural Resources).*

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	(N) The existing facility is built atop Quaternary alluvial deposits. Gravel, sand, silt, and clay have been deposited in stream and river channels, floodplains, and low terraces by as much as 20 feet above the modern stream channels. Thickness is variable, but may be as much as 50 feet in the Madison & Jefferson channels (Montana Bureau of Mines and Geology, Bozeman 30'x60' Quadrangle). Soils that underlie the present facility have been identified by the USDA Soil Survey as Amesha loam, Chinook fine sandy loam, Ryell-Rivera-Fairway complex, and Fairway-Threerive-Rivra. A gravel pit is located to the east of the storage lagoon. Neen silty-clay loam (USDA Soil Survey). All of these soil types, but the Amesha loam (rated "somewhat limited"), are rated as "very limited" for sewage lagoons. All of these soil types, but the Chinook fine sandy loam (rated "somewhat limited"), are rated as "very limited" for disposal of wastewater by rapid infiltration. Seismic probability has been estimated by the USGS. The seismic probability for an earthquake w/ 5.0 magnitude (body-wave magnitude) or greater at 0.30-0.35 for a ten-year time frame. For a 50-year time frame, the probability of a 5.0 magnitude or greater earthquake increases to 0.80-0.90.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	(N) Effluent monitoring has been expanded to include water quality-based parameters such as pathogens, as indicated *E. coli* bacteria, and nutrients, including total ammonia.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	(N) The facility may release odor particularly during instances of turn-over, which are common in the spring. The lagoon is located east-NE of town, so the prevailing wind likely would not carry an odor into the town. No other air quality impacts are expected.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or	(N) A request made of the Natural Heritage Program database for species of special concern, threatened, or endangered species. In the

IMPACTS ON THE PHYSICAL ENVIRONMENT	
cover types present?	area immediately surrounding the facility, the bobolink, a vertebrate, and a subterranean amphipod, an invertebrate, were identified by the database. Neither has federal agency designations. The bobolink has a state rank of "S2B", where the 2 = at risk due to limited/declining numbers, range, and/or habitat, making it vulnerable to extirpation in the state, and the B = breeding pairs. The amphipod ranking is "S1S2", where 1 = extremely limited and/or rapidly declining numbers, range, and/or habitat, making in vulnerable to extirpation in the state. The Three Forks area, specifically in the valley bottom of the Jefferson River, has a wetland complex in the lowlands that has been identified as an ecologically important area.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	(N) Four areas are identified by the Natural Heritage Program as having ecological information that can be useful in assessing biological values and interpreting Species of Concern data. None of these areas encompass the existing wastewater facility. However, if the permittee proposes to move the facility or land apply, the ecological information could be significant for environmental decisions. The specific locations and conditions of these areas are included in the facility file.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	(N) For the area surrounding the facility, a survey of the National Heritage Program database lists the Bald Eagle, gray wolf, and bobolink as species of special concern identified in the area. The bald eagle and gray wolf are listed as "threatened" by the USFS, and has "special status" with the BLM. The bobolink is ranked as having a state ranking of "S2B". S2 means the population is at risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to extirpation in the state and B refers to the breeding population of the species in Montana.
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	(N) The wastewater facility has been in the current location for over 20 years.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	(N) The wastewater facility has been in the current location for over 20 years. Urban development is low.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)	(N) No impacts are expected.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	(N) No impacts are expected.

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	(N) Public health and safety will be improved by treating the community's domestic sewage prior to discharge.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	(N) No impacts are expected at this time.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	(N) No impacts are expected at this time.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	(N) No impacts are expected at this time.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	(N) No impacts are expected at this time.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	(N) No impacts are expected at this time.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	(N) No impacts are expected at this time.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	(N) No impacts are expected at this time.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	(N) No impacts are expected at this time.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	(N) No impacts are expected at this time.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	(N) No impacts are expected at this time.
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	(N)

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[ ]
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[ ]

23. Description of and Impacts of other Alternatives Considered: None

24. Summary of Magnitude and Significance of Potential Impacts: None

25. Cumulative Effects: None

26. Preferred Action Alternative and Rationale: The preferred action is to reissue the MPDES permit. This action is preferred because the permit program provides the regulatory mechanism for protecting water quality by enforcing the terms of the MPDES permit.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

Rationale for Recommendation:

27. Public Involvement: A 30-day public comment period will be held, beginning October 6, 2008 and ending November 6, 2008.

28. Persons and agencies consulted in the preparation of this analysis: None

EA Checklist Prepared By: Rebecca Ridenour **Date:** September 29, 2008

Approved By:

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Jenny Chambers, Chief Date
Water Protection Bureau